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Incorporating Effective Electronic Gadgets into the Students' Learning in ODeL Academic Landscape Experiences

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Article abstract

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Incorporating Effective Electronic Gadgets into the Students' Learning in ODeL Academic Landscape Experiences

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Abstract

The use of e-gadgets for instructional practices, learning processes, and bridging transactional distance between higher-educational institutions and students remain complex and contested phenomena in educational research. However, studies that were grounded on the mixture of the Replace-Amplify-Transform (RAT) model and Acceptance and Use of Technology2 (UTAUT2) to study the impact of e-gadgets in an Open Distance e-Learning-landscape (ODeL) are still scant. This inquiry sought to find answers to the question: How does using e-gadgets impact a students' learning experience? The purpose of this study is to enhance an understanding of students' experience with e-gadgets for learning. Data were generated using in-depth interviews with students, employing thematic analysis as a methodological orientation. Findings unveiled that many rural-based students have no access to e-gadgets, which has an influence on performance, success, and retention rates. Findings further demonstrate that effective e-gadgets are significant in ODeL students' learning trajectory. Reliance on e-gadgets leads to dependency and deters innovation, as learners tend to over rely on readily available resources. Institutions must expand access to e-gadgets to help students complete their studies within the prescribed duration. For ODeL institutions to bridge transactional distance, access to e-gadgets must be expanded.

Introduction

Electronic gadgets are used to bridge a transactional distance between students and Open Distance e-Learning (ODeL) institutions. E-gadgets are functionally autonomous tools, which can manage

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their own resources (including sensors, processor, power, memory, etc.) and can engage in communicative actions with other related e-gadgets (Mavrommati & Kameas, 2012). Using a combination of Hughes et al.'s (2006) Replace-Amplify-Transform (RAT) model and the Unified Theory of Acceptance and Use of Technology2 (UTAUT2), this investigation sought to answer the question: How does using e-gadgets impact students 'learning experiences?

One of the most fundamental pillars in building society is through the establishment of a strong educational system (Ramane et al., 2021), in which the academic contents are delivered through online and traditional modes of teaching and learning. In this article, the focal point and the parameters of the discourse is online learning, and it is operationally referred to in this study as learning via electronic gadgets, or simply e-gadgets.

E-gadgets are defined in related literature in many ways. Gadgets, including smartphones and tablets, are technological tools that have advanced very swiftly, and have unique roles to play (Fauzi, 2018) in social and educational spaces. In Ramane et al.'s (2021) view, learning via electronic gadgets (e-learning or online learning) is an electronically-supported learning that utilizes the internet for teacher-student interaction, as well as for the delivery of prescribed educational curriculum and related study materials.

The degree to which e-gadgets are useful, and effective in teaching and learning, can be traced back to the time of the outbreak of COVID-19, which fueled the diffusion, adoption, and use of electronic gadgets in teaching and learning at primary, secondary, and tertiary levels. It is evident, even in the literature, that electronic gadgets, including social media, have become of great significance in the lives of young adults for various reasons, including to enhance students ' learning experience (Chowdhury, 2024). These devices are increasingly a key pillar to a hybrid mode of learning, particularly when it comes to quality and efficiency in bridging the transactional distance between learners and academics, as well as between learners and non-academic personnel.

The hybrid mode of learning is a pedagogical approach that integrates online digital media with traditional classroom methods. It offers unprecedented opportunities for both students and academics for teaching and learning in open distance e-learning institutions, and in higher education in general. O'Brien (2012) contends that gadgets, such as social media, can be utilized for sharing information with learners, gathering data while conducting a study, engaging learners, forming study groups, and connecting them with social tools to ensure collaboration in learning.

Electronic gadgets have proven to be pivotal to the hybrid-learning approach, by augmenting connectivity between individuals within higher educational institutions and between students. Much of this connectivity has amplified interactivity and reciprocity between learners and academics, as well as among students and support staff. While there is a satisfactory volume of research on the benefits derived from the use of e-gadgets, and the challenges faced by students while using them for learning purposes, the ones which investigated these phenomena using an amalgamation of the RAT model and the unified theory of acceptance and use of technology in ODeL has been negligible.

The infiltration and benefits of electronic gadgets in learning have shaped the way schools and academic institutions, including open and distance learning institutions, offer programs and deliver educational contents to students. Electronic gadgets are used as a means of communication among the junior-high-school population, who can access information quickly and easily (Aprianti et al., 2022). The dark side of the adoption of these tools in teaching and learning, explains Aprianti et al. (2022), is that students tend to play with them and forget to study, which impedes their positive learning experience.

This study employed a mixture of the Replace-Amplify-Transform (RAT) model and the unified theory of acceptance, along with the use of technology, to investigate and find answers to

the following critical research question: How does using electronic gadgets impact ODeLstudents' learning experiences? With the University of South Africa as a case-study, the purpose of this exploration was to uncover the challenges faced by students studying in open and distance learning institutions in accessing electronic gadgets, and how effective the students who are using such technologies are learning. This paper also intends to unmask the benefits which ODeL students can derive from the proper use of electronic gadgets in learning, and the degree to which such usage can influence their performance, retention, and success rate.

Review Of Documented Studies

The never-ending advancement in electronic gadgets and their vital character of making new innovations possible has not escaped the interface with the physical world, where economic principles of scarceness still apply (Mbatha et al., 2011; Mbatha, 2014; Stanciu et al., 2012). The disparities in wealth and its distribution, also endemic in the educational sphere, persist to underpin concerns around access to effective learning electronic devices. There has been an argument that regardless of its ODL pursuits, the University of South Africa (UNISA) fails to offer support to its students who do not share the contextual facets of those who stay in urban areas and have easy access to a variety of these modern conveniences (Mbatha, 2015). The variances in availability appear to counter the UNISA policy of drifting to an ODeL universe, as they threaten to leave out students from disadvantaged backgrounds.

The adoption and application of teaching and learning electronic innovations in institutions of higher learning, and UNISA in particular, has a possibility to lessen challenges in higher education. These devices' benefit of connectivity eliminates time, place, and situational obstacles, while enabling high-quality communications between educators and learners (Kanuka, Brooks, & Saranchuck, 2009). According to Jeffrey et al. (2014), this kind of equipment is a vital component of hybrid learning, and it strengthens the practice of distance education that accentuates flexibility of time, place, and pace of student learning. The power of such media in precluding academic institutions from failing was evident during the COVID-19 pandemic, when lockdown regulations became temporarily enacted in almost every part of the globe. Students and teachers were prohibited from going to school in person. Furthermore, this equipment aids administrators and instructors to control increased enrolment, offer better usage of facilities by decreasing lecture schedules, respond to objectives of an organization to increase information-and-communication-technology (ICT) services, improve students' retention and performances, and bridge the transactional distance between students and lecturers (Graham, 2006; Mbatha 2014).

Over a considerable timespan, extensive literature has documented that students' and instructors' experiences of electronic gadgets diverge a great deal, due to the different factors which encompass, among other things, expertise, access, and inequalities (Stanciu et al., 2012; Usluel & Mazman, 2009). The adoption and use of electronic gadgets has widely become omnipresent in the delivery of distance education, particularly in an ODeL environment. Their proliferation and universal usage in the tertiary education market originated from the diversified gains that they offered in the practice of teaching and learning. According to Thomson et al. (2014), improved infrastructure within the ICT terrain, especially in the global university system, expands access to education via various data-enabled mobile services and computers. Lin and Lee's (n.d.) understanding of the benefits of podcasts in teaching and learning indicates that they are valuable in information sharing between students and instructors with no geographical and time-based restrictions. Regardless of the array of advantages which electronic gadgets offer to the global tertiary educational landscape, some parts of the world still suffer from challenges regarding

access. This obstacle has been popularized in the gamut of literature, because open and distance educational institutions encounter challenges that relate to the lack of technological resources, such as, to mention a few, computers with internet connectivity, smart phones, tablets, and iPads (Mbatha, 2014). These limiting reasons lead to poor academic performances of students, decreased success rates, and low retention rates (Mbatha & Naidoo, 2010). An investigation conducted by Minnaar (2011) discovered that the foremost student cohort, which is unpleasantly affected by inaccessibility of electronic gadgets, reside in remote rural areas where many families are categorized by poor financial backgrounds, limited academic history, and unavailable technological infrastructure. Minnaar suggests that students must be given financial support to expand access to teaching and learning technologies, as well as a variety of supports to enhance their understanding of such technologies and how to effectively use them.

Students' access to electronic gadgets has become an inevitable research focus, and this study partly addresses it within the borders of open distance education (ODL), limiting its scope to the South-African distance-education context. This paper aims to uncover the benefits which students can derive by using electronic devices in learning, and the variety of challenges that they experience as they apply such technologies in their learning trajectories. In addition, another aim is to investigate the degree to which the challenges that students experience when using technology affect their performance levels, and their retention and success rate.

Technological usage has permeated distance education, and subsequently redefined the way open-distance learning environments implement teaching and learning. The student population involved in online learning has increased over the past decades, and this form of academic engagement became popularly labelled as e-learning (Brown & Venkatesh, 2005). Minnaar (2011) contends that e-learning encompasses accessing study materials, communicating with academics and other students, and interacting with learning content to get support during the study process.

This study is tailored to examine the challenges of students' access to technologies used for teaching and learning and narrow its focus to the University of South Africa (UNISA)'s Durban region, with a student population from both rural and urban areas. Presently, there is a lack of studies that are focused on the access component within the Durban region. Numerous students at UNISA do not use electronic technologies, even though an emphasis to use them is promulgated across the entire student population.

These claims in literature indicate a need to illuminate how electronic devices can support learning and discover the perspectives of learners and academics in different environments. Consequently, an underlying approach to this study is to probe how the adoption of electronic gadgets has influenced the learners' and academics' teaching and learning experiences at UNISA. It is important, therefore, to understand if and how learners are benefiting from the use of technology in their learning experiences, and if not, why they are not taking advantage of this potential. As outlined in the opening paragraph of this section, there is both a practice of inclination and disinclination by learners in the use of electronic tools in their studies.

Theoretical Frameworks

Higher educational institutions across the world have embraced new media technologies in teaching and learning approaches. There are numerous factors that fueled such an e-gadget-based pedagogy. For instance, the pace at which the technological environment throughout the world has been advancing over the past few decades, and the range of benefits it offers in the delivery and reception of educational contents has compelled higher education institutions to reconsider their

teaching and learning pedagogies. The outbreak of COVID-19 also left institutions of higher learning with no alternative option but to incorporate e-gadgets in their operation, including instructional practices and learning processes.

An adequate proliferation of theoretical frameworks serves as lenses in studying the diffusion, adoption, and use of technology in teaching and learning, and have been sufficiently documented in the literature. Such frameworks include Hughes' (2006) Replace-Amplify-Transform (RAT) Model, Venkatesh et al.'s (2003) unified theory of acceptance and use of technology2 (UTAUT2), and the framework-for-action developed by Hughes et al. (2011). In this paper, an amalgamation of the RAT model and the UTAUT2 Model were employed to examine the impact of the adoption and use of e-gadgets on students' learning experiences in an ODel landscape.

Replace-Amplify-Transform (RAT) Model

The RAT Model originated from Joan Hughes' (2000) doctoral-thesis study at Michigan State University, with the focus on the integration of technologies by teachers, and the knowledge that they acquired regarding technology for instructional practices. The model was originally designed for assessing the integration of technology in schools (Hughes, 1998); however, it has been adopted for use in the context of higher education. The RAT model is a framework for finding out if digital technologies can be utilized to replace, amplify, and transform conventional pedagogies in educational practices. The replacement tenet of the RAT Model is based on the doctrine that the integration of technologies in educational practices can alter instructional practices, learning processes, and content goals.

Furthermore, technologies can be applied in instructional practices to improve their productivity by making teaching and learning effective and efficient. As a transformation, technology for enhancing teaching and learning can be included to refurbish facets of instructional practices and to support the way students learn the content of the subject or curriculum in a completely different way. As a result, students can eventually access new content and develop new cognitive capabilities.

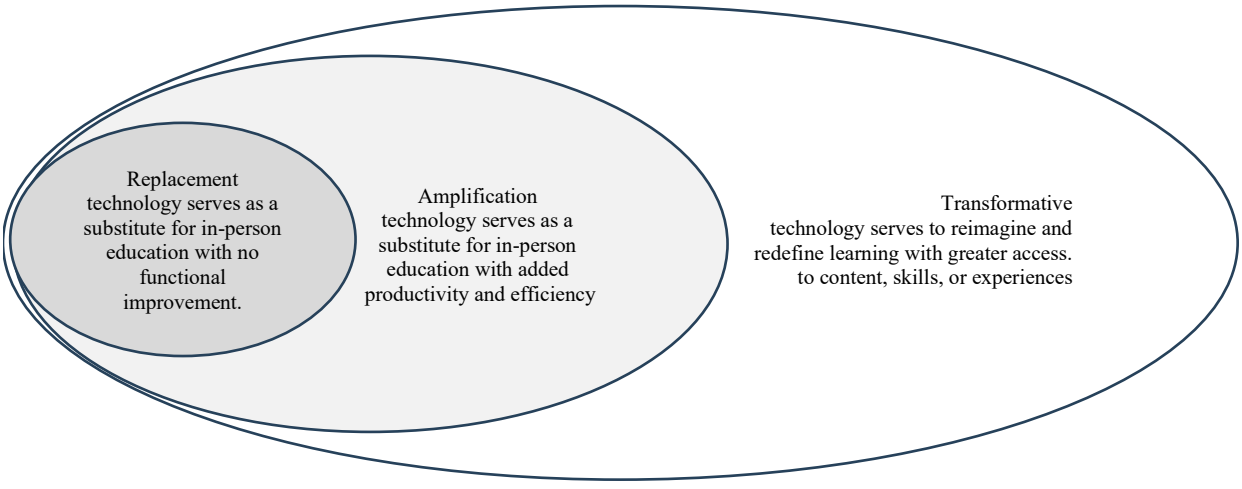

Figure 1: The Replace-Amplify-Transform (RAT) Model (adapted from Hughes, 2006 and McHugh, 2014).

Unified Theory of Acceptance and Use of Technology 2

Using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), this study seeks to offer explanations to students' acceptance or rejection of new media technologies (Venkatesh et al., 2003). The UTAUT2 is derived from the UTAUT, a model that integrates eight prominent theoretical models in information-technology research, namely, the social cognitive theory, theory of reasoned action, the innovation diffusion theory, the technology acceptance model, the theory of planned behaviour, the model of PC utilization, the motivational model, and the model combining the technology-acceptance model with the theory of planned behaviour (Venkatesh et al., 2003). All these models have the usage intention in common.

The ATAUT theory, however, rests on four key pillars, namely, performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). The theory proposes significant strides into the usefulness-intention relationship between students and their use of new media. The UTAUT can be suitable for this inquiry because it offers explanations for two key variables: user intention and usage behaviour. However, it is not well-suited to the context of this study, because it is not context specific, hence the adoption of the ATAUT2 theory.

The ATAUT2 theory, as its starting premise, begins by recognizing three key additional pillars to the UTAUT, by tailoring it to a specific context. Venkatesh et al. (2014) identified these pillars as hedonic motivation, price value, and habit. (See the integrated ATAUT2 in Figure 2 below.) According to Nysveen et al. (2005), the hedonic motivation emphasizes utility, for example the gratification and fulfilment in technology use. An extension of hedonic motivation is price value, which refers to the financial costs related to the use of a technological product--a key factor in decision-making, when it comes to adopting an innovation. The third pillar of ATAUT2 is habit. This is a behavioural factor, and the argument is that it has a direct effect on technology use, as it weakens or limits the strength of the relationship between behavioural intention and technology use (Davis & Venkatesh, 2004; Kim et al., 2005; Kim and Malhotra, 2005; Limayem et al., 2007; Mbatha, 2014).

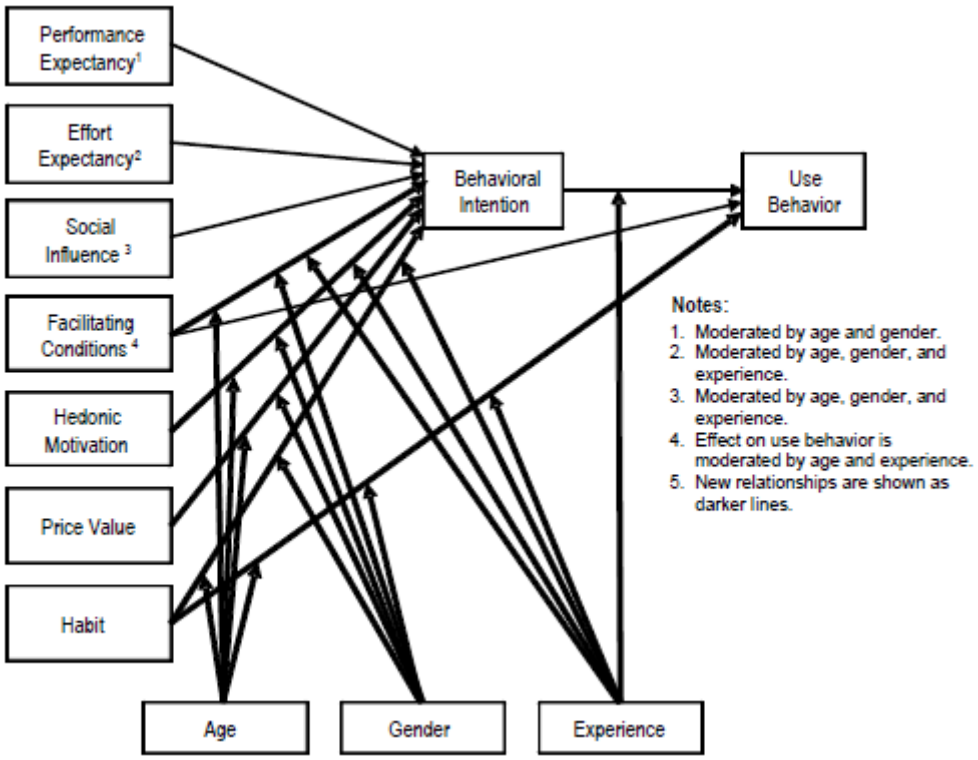

Figure 2: UTAUT2 Research Model (adapted from Venkatesh et al., 2012).

Against this backdrop, it is important to focus on the other four pillars and their relevance to the study. A key basis for using the ATAUT2, and its seven pillars, is that it traces contextual factors that influence attitudes, beliefs, motivations, and intentions for using electronic tools. The first of the four pillars, the performance expectancy pillar, suggests a few issues.

Application of The RAT Model and UTAUT2 Theory to the Study

The RAT Model comprises three significant tenets to assess an integration of technologies that enhance teaching and learning, while measuring the degree to which instructors have acquired knowledge on these tools for education (Hughes, 2000 & 2006). The first tenet is the replacement of traditional teaching and learning pedagogies with e-gadgets to support students in their studies within the context of ODeL. This is based on the doctrine that the use of technology in educational practices has an ability to alter the existing instructional practices, learning processes, and content goals.

UNISA is the only university in the South African higher educational system whose mandate is to offer distance learning and must ensure that there is widespread access for greater participation, locally and internationally. In guaranteeing greater participation, technology-based teaching approaches must be well thought out and implemented. UNISA, as an ideal open and distance e-learning institution (ODeL), is an educational environment in which distance learning and the delivery of instructional content is facilitated by technology as a transmission channel. Historically, instructional practices at UNISA relied on the use of telephones, videotapes, and printed study materials, but now incorporates online learning, widely advocated as e-learning (Wang 2014). More recently, UNISA uses an ODeL Model in which instructional practices are

fully online. Thus, the university has successfully managed to replace the traditional modes of teaching and learning with technology-based pedagogical strategy. The content of the subject is built on a learning management tool called Moodley, which consists of various applications, such as the discussion forum and announcement tool. Teaching and learning alike take place through this learning management system.

The second tenet of the RAT Model is amplification, which Hughes (2006) and McHugh (2014) argue that technology serves as a substitute for in-person education with added productivity and efficiency. To learn online effectively and efficiently, students need electronic tools and an internet connection, what, in the context of this study, is referred to as e-gadgets. While the use of technology in instructional practices can yield a range of benefits to higher educational institutions and students alike, an exercise to measure the productivity level must consider other factors that may contribute to productivity. The study conducted by Netanda et al. (2019) on support interventions for distance- education students had uncovered that access to technology does not translate to improved student performance, unless they also receive academic support from their tutors, lecturers, and peers. This finding opposes ATAUT2 Model's dogma, which holds in its performance-expectancy theory, that the extent to which an individual believes that using a particular system would result in improvement regarding job performance (Balakrishnan, 2014) produces improved job performance. By using e-gadgets, students can have instantaneous communication with the lecturers and other students. For instance, conversations occurring in the discussion forum enable participants to exchange ideas instantly. The lecturer can assess a student's assignment, and send feedback immediately after completing its marking.

The third tenet of the RAT Model has the philosophical view that technology serves to reimagine and redefine learning with greater access to content, skills, or experiences. The advantage of using e-gadgets at an ODeL institution is that a considerable number of students across the globe can retrieve study materials online, irrespective of their location. However, the skills to use technological tools for both teaching and learning is necessary, otherwise, both would make this type of education difficult.

Application Of ATAUT2 Theory to the Study

The performance-expectancy theory refers to the degree to which an individual believes that using a particular system would result in improvement regarding job performance (Balakrishnan, 2014). In UNISA's case, new media technologies are built on the idea of interactivity. It is therefore assumed that these tools can bridge the gap between students and lecturers, or even among students themselves, by collapsing the distance.

Interactivity stands for a more powerful sense of engagement with media texts, a more independent relation to sources of knowledge, individualized media usage, and greater user choices (Lister et al., 2009). Consequently, the interactivity tool is expected to enhance the UNISA student's learning experiences. However, there are also some technical limits to the use of new media tools. This is addressed by the effort-expectancy pillar.

Moreover, the effort expectancy refers to the degree of simplicity associated with the use of a particular system (Ventakesh et al., 2003). The adoption of a new tool is also determined by how simple it is to use, particularly for students who are already overwhelmed by their workload. For example, some programs may have many embedded links that may lead to different links in the process, creating challenges for the deliverance of a coherent learning experience. Therefore, it is a challenge managing information overload. Such experiences, whether positive or negative, could create other ideological connotations that shape students' attitudes towards the use of new

media technologies. The discussions and consequences of effort expectancy overlap and are contiguous with discussions of the third pillar: the attitudes toward using technology.

The attitude towards using technology refers to the degree to which an individual believes that the use of a particular system should be undertaken (Ventakesh et al., 2003). There is literature that explores the relationship between the user's attitude and the adoption of new media technologies (Mbatha, 2009). One example is the hesitancy by both staff and students in adopting electronic gadgets, due to reasons that may range from work overload to organizational inertia. This technological resistance can be linked to the fourth pillar: social influence.

Another factor to consider is social influence. If an individual perceives that others believe that a particular system is worthwhile, then this will persuade that individual to use it.

The social influence pillar is closely intertwined with the facilitating-conditions pillar, which is the extent to which an individual believes that an organizational and technical infrastructure exists to support the use of a particular system (Kistan, 2002). It is important to consider that the cultural reception of a new medium is always positioned in relation to existing media (Marvin, 1998). The contrast with older forms, therefore, shapes the expectations by society for the use of certain tools. If the new media is accepted, because of its complementary and innovative nature to the previous forms, it can then be socially accepted. Another key factor that is linked to its acceptance is the organizational and technical support by UNISA, particularly through policy and training, among other factors. The social influence and facilitating conditions' pillars provide a firm foundation for the explanations and insights into the heterogeneous structure of the beliefs and motivations underlying student-user acceptance.

These pillars epistemologically provide a window into self-efficacy and anxiety about the individual with the use of technology. Self-efficacy refers to the degree in which an individual judges his or her ability to use a particular system to accomplish a particular job or task, and anxiety is about the extent to which one is anxious or has emotional reactions associated with the use of a particular system. The literature reviewed in this paper was taken from journal articles and books related to the adoption of technology in education and ODL.

Methods

Study Design and Sample

This study was a qualitative case-study design that used the University of South Africa (UNISA) as an ideal ODeL institution to gain an understanding of students' experiences regarding e-gadgets for learning, by seeking answers to the question: How does using e-gadgets impact students' learning experiences? The study relied on in-depth interviews for the generation of data. The median length of interviews was 45 minutes and ranged from 30 to 60 minutes. Informed consent was obtained from participants in the study to ensure that they fully understood what they were doing, and to verify that they were willing to partake in the study. The respondents were assured of their rights, including the right of consent, protection from disclosure of information, and respect for their privacy. All the research respondents participated voluntarily, and no one was forced to take part. Regarding protection from harm, the researchers ensured that the respondents were not at any risk, and would not be exposed to embarrassment, unusual stress, or any demeaning treatment. Anonymity and confidentiality were promised and maintained. The information that respondents provided was not made available to anyone who was not directly involved in the study, and no information could be traced to any participant. The researchers also ensured that participants remained anonymous throughout the study. In terms of

professional standards, the researchers made certain that the results were collected in a professional manner, without misrepresenting anyone and/or intentionally misleading the respondents about the nature of the study.

The researcher applied for ethical clearance, and it was granted by the ethics' committee of UNISA's College of Humanities. A request for permission to collect data was then made to the regional directors, learning, and facilitating managers, lab assistants, as well as the libraries' managers in all the regions. Participants and respondents were informed of the purpose of the research and were assured that the findings would result in no harm to them, the university, or the society at large. All the students gave consent and took part in the study on a voluntary basis. The participants were requested to provide permission, ahead of time, to record the interviews, and they all permitted the researchers to do so. The researchers guaranteed that all the results would be presented honestly, without fabricating any data to support any finding. The results are presented below.

The research targeted UNISA's students, irrespective of their level. These students were using the Durban region to receive learning support services from the university. The study targeted those who were registered in 2015. A regional director, the learning and facilitating manager, and academics were also interviewed. A minimum of 36 students in the region were targeted. Both convenient and purposive sampling methods were used. This choice originated from the belief that any UNISA registered student who was found, and who may consent to partake in the study, may still provide the key information needed.

To supplement the interview data collection mode, a tablet was also used to record the interviews. The selection of this region was predisposed by the present little-documented literature, and stemmed from students' concerns that they have no access to electronic devices to facilitate their learning. Before the effects of the shift from traditional media to electronic gadgets are presented, it is important to acknowledge that students and academics have demonstrated the importance of electronic media in their teaching and learning experiences. However, favourable references to traditional forms of teaching and learning have persisted among students and academics alike. This study limited its focus to UNISA, and so the findings cannot be generalized, since this is merely one case-study, and focused only on one of UNISA's regional hubs.

Approach to Thematic Data Analysis

In practice, as Mavrommati and Kameas (2012) argue, the process of qualitative-data analysis commences during the data-gathering stage, when the researcher facilitates the discussion, by producing rich data from the interview proceedings, using observational notes to complement them, and transcribing the recorded interviews. This implies that data collection, analysis, and interpretation can occur simultaneously.

There are various techniques to analyze qualitative data, which include content analysis, grounded theory, and thematic analysis. In this study, the thematic analytical approach was used as it, in Terry et al.'s (2017) view, is suitable for research questions on participants' lived experiences. The question posed, which the study seeks to answer, is on people's lived experiences: How does using e-gadgets impact students 'learning experiences? Analyzing data thematically can follow a theoretical, or top-down, approach which is influenced by the research questions or follows an inductive (also known as the bottom-up) approach, which is driven by the data itself (Braun & Clarke, 2006). Theoretical thematic analysis was used, rather than the

inductive approach – meaning that an analysis was driven by the research question with that in mind.

Findings, Analysis, and Interpretation

Problem of Inequality in the Adoption of Electronic Gadgets

Given the evidence from the data, the student outcomes were mixed, with all pointing toward a positive contribution of electronic gadgets in students' learning experiences. However, in practice, distinctions began to emanate, as inequalities left a minority of the participants with computers at home reporting a positive contribution to their learning. On the other hand, a large segment, especially those from the townships and rural areas, accepted the electronic gadgets' value only when computers were accessed.

There was the issue of inequality regarding resources and computer literacy. These concerns were raised by 25 of the 36 respondents, and in 114 narrative responses. The limited resources and lack of computer-literacy skills inhibited the students' motivation to adopt the electronic devices, hence missing the advantages that the students with access enjoyed. Subsequently, students with limited resources felt left behind, and preferred the old ODL traditional methods, even with their limitations. The theme of inequality in accessing electronic tools had three inter-locking sub-themes under it. The three sub-themes are limited access, inadequate infrastructure, and poor skills.

Another concern was the low motivation among students to use online resources because of limited access. Even though the students appreciated the value of electronic gadgets, a significant number of them pointed out that they only had access to computers once they were on campus. Internet cafes in their home areas had many other problems, ranging from slow speed, expensive or outdated equipment and software, among other things, and their locations were far from where they reside. To exacerbate the problem, when they came to campus, the number of computers were proportional to the number of the students who want to use them. Consequently, the students did not like the value brought by electronic gadgets. According to the students, limited access was due to the university being quick to migrate to ODeL, without giving attention to ICT infrastructure and its capacity. Interestingly, a few responses acknowledge this position. One student pointed out:

> Why should we be happy that we have electronic gadgets, when some of us are left a few? It's like someone saying we must enjoy a well-baked cake when we are not going to be able to buy or taste it. It is unfair. We are used to this anyways. UNISA has always treated poor students like this.

There are more similarities between limited access and the question of university ICT infrastructure than what this student's response had suggested. In both situations, access is determined by availability of resources, and the university must initiate mitigating conditions through ICT policy. One of the centre administrators argued that students are hesitant to use the facilities, as they only flood the centre when assignments are due to the limited number of computers available. He also pointed out that the situation deteriorated because students with limited skills also want to use the time for training, and often the focus then is on submission of work, which means that they will only be seen again when another assignment is due. Despite the administrator's argument that the students maintained that the quality of trainers and university's commitment to equality, when it came to ICT, was lacking, there was, however, evidence that the university was putting more effort into ICTs by establishing Thusong ICT

learning centres, of which the students acknowledged their existence. The students pointed out that if the university is migrating to ODeL, it should make computers and the internet easily available for everyone. If not, only the rich students would benefit from the migration into ODeL. In the end, the entire process of migration to these technological media would end up being a burden that expands inequality, preventing students from effectively taking advantage of these tools that are supposed to pose great potential in enhancing their learning experiences.

Another challenge that many students were faced with was poor computer skills. An administrator pointed out that,

The typical UNISA students have changed from adults who spend most of their time at work, to young students coming straight from high schools. This means that the number of students frequenting the university campus has more than tripled over the years, but the space has remained the same, and so has the equipment. It is difficult to service all students at the time they want, because even our numbers are limited as ICT staff.

The problem of physical and contemporary demands, such as growing student numbers, inadequate funding and resources, insufficient space and personnel is well supported by the literature (Almaki, 2011). These challenges show a correlation between inadequate resources, like training personnel, with students' lack of computer literacy, especially in impoverished areas. Staff appear to be overburdened by student numbers, and end up offering crash courses, instead of intensive courses. On the other hand, students also need to show commitment and attend these courses, not only when they need to submit assignments. Nevertheless, students are a source of defense or support, and their views are indicators of their acceptance of this new learning and teaching environment, but the inequalities remain a barrier. It is therefore time for the university to consider issues of inequality, as addressing them could be an antidote to students' access attitudes and problems.

The study unveiled that, compared to the traditional mode of teaching and learning, the use of electronic devices is not effective, because learning through them requires internet connectivity and data bundles to run them. Students sometimes experience connectivity issues, which makes learning difficult, impeding concentration. Although electronic gadgets provide a lot of benefits, lack of face-to-face communication between lecturers and students was found to be another problem, as there are students who subscribe to traditional modes teaching and learning than others. Students sometimes want to hear the voice of their lecturers, and to make the connection between the voice and the person behind it.

Limitations

Whereas the strength of the findings rests within the integrated use of multiple lenses to describe and explore the phenomenon, the research is also characterized by some shortcomings. Owing to the focal point of the study, which centred its exploration into open distance terrain, cautions should be exercised in the application of findings of this study in other educational contexts, such as residential universities.

The sample size used to collect data was also small. There was only a total of 36 students, and only two people to conduct the interviews. Considering the magnitude of UNISA student population, which comprises a variety of branches, both locally and internationally, there is no reliability on the representativeness of students who participated as respondents, since the sampling was based on convenient and purposive techniques. In addition, an examination of the original question from an epistemological perspective, revealed that the students' backgrounds and behavioural attitudes in relation to their experiences of electronic gadgets in their learning

encounters had been ignored. However, the data revealed the importance of the two facts for this analytical framework. It was therefore important for the study to add sub-questions of geography, background, and attitudes in the educational experiences of students, as revealed by the data. This limited the scope of the study because these questions might need exploration as independent and stand-alone questions driving a research project. A theory that explains student alienation, exclusion, and disengagement could be formulated to address some of these concerns.

Conclusion

This study used a qualitative-research method aimed at examining the impact of electronic educational tools and students' experiences using them at UNISA. The University of South Africa's KwaZulu-Natal Region's (UNISA's KZN) Durban hub regional centre was used as the educational context for this study. The research outcomes were mixed, with all the students accepting the advantages brought about by electronic gadgets, such as the flexibility of remote access, intra-student pedagogy, and alleviation of administrative backlogs. However, most of the interview respondents pointed out that there is a gulf between potential and practice. The responses revealed that there is a significant relationship between the geographical setting and the accessibility of electronic devices. The findings showed that the greater proportion of UNISA's student population in the KZN Durban hub regional centre areas have no access to many of the electronic tools used for pedagogical purposes. Grounded on this result, it can be deduced that remote, rural students face inaccessibility challenges to electronic media that is used for teaching and learning, while those who are proximal to other locations are better off in accessing and using electronic gadgets than the rural students. These findings suggest that there is a need to provide technological support interventions to the affected cohort. Being isolated from the region undesirably influences students' academic performance, resulting in low retention and success rates. Inherent to this concern, is an insinuation that some of the students from KZN region adversely experience a digital-divide problem that subsequently contributes to low access to, and usage of, electronic devices that are used for teaching and learning, which results in exclusion, non-participation, and alienation of students in financial margins.

The use of gadgets leads to both a positive and negative impact on student learning outcomes. Interestingly, some ODeL students do not only utilize e-gadgets as communication tools, but also use them for playing games, and engaging in entertainments, over and above using them for learning. The positive impact divulged by this study is that students can, among other benefits, easily and quickly get the information that they need. However, if not used for a good purpose, they may lower students' performance scores and negatively affect their learning experience.

It is recommended that learning centres be built in pastoral far-flung areas, and that computers with internet networks be supplied to increase accessibility to electronic gadgets. Their adoption and usage should be maximized by providing students with the resources necessary to learn the needed computer-literacy skills and navigation of the teaching and learning platforms. Further to this necessity, intervention programs, such as training initiatives are pivotal in transferring technological competencies and to stimulate students' e-readiness. Inclusive research focused on all UNISA local eight regions, and its other international centres, is necessary for expanding the scope for understanding the digital-divide problem and the challenges that are attributed to the inaccessibility of electronic gadgets used for teaching and learning in certain populations. Further to this proposal, the e-readiness aspect demands an

inquiry to establish if the resistant character to adopt technologies for teaching and learning exists among isolated rural students.

Although electronic gadgets provide a lot of benefits, they can become more effective if used in amalgamation with the conventional mode of teaching and learning. For e-gadgets to have a positive impact on students' learning experiences, technological issues, such as connectivity problems, lack of internet and data bundles, as well as effective electronic devices must be addressed. Institutions of higher learning offering educational contents through e-learning and teaching tools must consider putting into place a way of offering financial support for students whose financial backgrounds are limited, so that they are able to purchase and use these innovations for learning.

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